ONGOING CHANGES IN THE ACADEMIC ENGLISH LANGUAGE OF ENGINEERING

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Abstract
The paper presents an overview of recent linguistics studies of variations in the features of English research articles across disciplines, the main focus being on the growing trends in the field of engineering. The author investigates the overlapping semantics of English words “magazine” and “journal” in terms of modern means of academic communication, as both can be used to denote a publication regularly issued to address particular areas of scientific interests. It is shown that on-line availability and wider accessibility of research papers influences the classical rhetorical structure of introduction, methods, results and discussion sections, represented through a number of moves and steps, which can differ not only between disciplines but also within engineering itself as it embraces a vast range of branches. Finally, science and engineering disciplines are reported to have become less formal because of a more frequent use of the personal pronouns.

Magazine vs. Journal

The word “magazine” is traditionally defined as a paper-covered publication that is issued weekly or monthly and contains a wide range of articles, news, reports, stories, photographs, and advertisements. Magazines are supposed to be read for leisure by those who are fond of fashion, computers, gardening, or other areas of particular interests. On the other hand, the journal is expected to belong to a different register as it is associated with academic research conducted in a specific field of science and thus addresses only those who work or study within this realm of knowledge. However, there have been recently a number of discussions on the differences between magazines and journals, especially on the web-sites that offer resources for learning academic English, as it is actually getting difficult to distinguish between those two types of periodicals [1].

What does the dictionary say?

Based on the definitions found in the dictionaries and academic English study materials we can identify the following key differences between magazines and journals in the communicative purpose, content, intended audience, authors, paper layout, functional style, references given, review policy, the publisher, advertising and titles:

	Magazine	***Journal***
Purpose	to inform about a wide range of problems, in particular the latest events, to entertain	to report on inventions and discoveries, to substantiate hypotheses, to prove the theory, to present detailed results of scientific researches

	readers, attracting their attention to interesting news, gossip, etc	and experiments
Content	covers a wide range of topics, intended for general interests; may contain news, stories, reviews, etc	contains academic articles devoted to original research with a narrow specialization
Intended audience	general audience, a wide range of readers	specialists in a certain field of knowledge, specialists, scientists, students
Authors	Journalists, freelance writers, well-known authors; in some cases the name of the author is not given	experts, scholars working in the academic field, in a particular field of science
Layout	glossy cover, short articles with colourful illustrations, photos, advertisements; the design is made eye-catchy due to a wide variety of fonts, colours, etc.	Simple design, long articles that often contain tables, charts, diagrams; the article typically begins with an abstract and ends with highlighted conclusions; the article is well-structured, and each section has a subtitle
Functional style	newspaper style; in popular science articles the terms are simplified, there are a lot of definitions, explanations, examples to help the reader comprehend the content	Scientific prose style, professional language, a lot of technical, specialized terminology, abbreviations
References	Sources are often not cited or are incomplete	Multiple sources are properly cited, there are usually footnotes and bibliographies
Review policy	Articles are reviewed by the editorial board	Articles are reviewed by a panel of peers, that is several experts in the specific field of knowledge
Publisher	Published commercially, usually a subscription to both paper and electronic format is available	Published by an association, academic institution or professional organization

Advertising	Contains advertisements of various products and services to attract the general consumer	Little or no advertising; if present it is usually specific to the field or discipline the journal covers
Title	is often concise, easy to remember, and indicates the area of interest: Discover, Popular science, Sport, PC World	often contains the words “journal”, “review”, “quarterly”, and indicates the exact area of scientific research: American Journal of Nursing, Journal of Energy Engineering, Artificial Life

Still, if we look through a couple of journals in the field of engineering we can find out that they contain colourful pictures, short news stories, and are available on-line, just like magazines (see Fig. 1)

Fig. 1 Magazine or journal?

Moreover, a few well-respected publications, for example “*IEEE Power & Energy Magazine*”, contain the word “*magazine*” in the title itself, and are full of advertisements of academic events intended for professionals in power industry.
Thus, we could reason that academic journals tend to become more accessible and attractive for a wide range of readers, including not only scholars but also practitioners and industrialists.

New format – new language features
The on-line availability of journals in PDF and HTML formats greatly affects their structure [2; 3]. In-text citations and references are turned into hyperlinks, article visuals are now downloadable as separate full-size images, and in addition to the abstract there might be the new section called “***Highlights***”, which represents 3-5 bullet points that convey the core findings of the research and thus provide readers with a quick textual overview of the article.
e.g. https://www.sciencedirect.com/science/article/pii/S1743967115300921

Rhetoric diversity of engineering
As for the conventional sections of English research articles, which according to Swales’ framework are often referred to as IMRD, in other words, Introduction, Methods, Results,

and Discussion, the insight into six different branches of engineering has revealed that only some moves of introduction and concluding sections can be regarded as very similar and this is explained by the differences in the nature of research conducted in each field of the engineering practice, which ranges from observational experimentation to mathematical simulation [4].

Furthermore, one should point out the changes in the pragmatics of academic English research articles.

The latest cross- disciplinary study by Ken Hyland discusses the increased informality of academic papers. Three corpora dated of 1965, 1985 and 2015 comprise professional academic writing in four disciplines (applied linguistics, sociology, electrical engineering and biology), which are analysed in terms of the frequency of informal features encountered, such as the use of first person pronouns, split infinitives, contractions, direct questions etc [5].

Impersonality of academic English

Although the overall results are not extremely striking, illustrating only a slow increase in the use of informal features in academic writing, it is clearly seen that in contrast to other disciplines electrical engineering has gradually increased the number of informal features in its main journals over the past 50 years **up by 9%,** this being mainly due to a more frequent use of first person pronouns.

It is concluded therefore that impersonality is becoming a rhetorical option rather than convention in the genre of research articles, and it is electrical engineers who are trying to establish a more engaged and personal connection with their readers.

Conclusions

In conclusion, we need to continue investigating discursive practices and conducting genre analysis in specific institutional and disciplinary contexts in order to gain a better understanding of the ongoing changes in the verbal and non-verbal means of academic communication, especially in the area of engineering and technology.

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